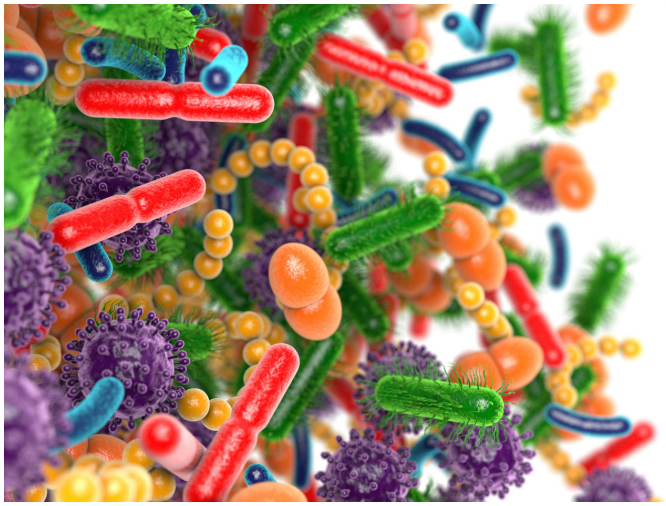

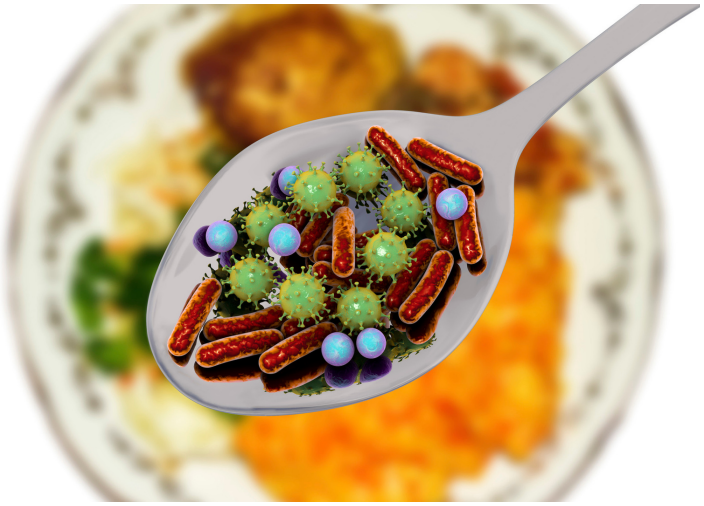

GUT MICROBIOTA COMPOSITION AND FUNCTIONALITY

The human intestine is inhabited by trillions of microorganisms, mostly bacteria, and that is what we call the **gut microbiota** or gut microbiome. Although having bacteria living in our intestine may sound like a bad thing, actually it is not, for the most part.

Bacteria in the intestine help human intestinal cells to digest some nutrients and therefore these nutrients are more available for us.

Additionally, bacteria can produce different chemical compounds that human cells can utilize for different beneficial purposes. Finally, there are even studies that correlate specific bacteria in the gut with specific diseases such as obesity, intestinal disease, or even neurological conditions. In the broadest sense, they keep us alive. However, there is a catch; intestinal bacteria feeds from what we provide through our diet. Whatever we eat and cannot completely digest, reaches the large intestine and feeds the microbes living there. Not every microbe is able to feed from the same nutrients and thus, depending on what we eat we will be favoring one microbe over the other and whereas most of them have a beneficial role, some of them could be harmful.

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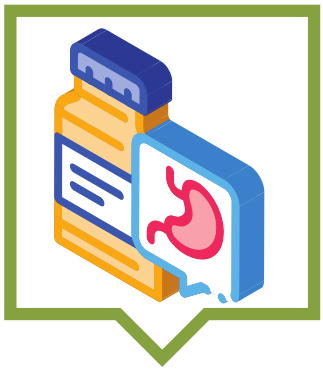
The intestinal bacteria feeds from what we provide through our diet.

Problem is that with each meal we have, we are providing hundreds of different nutrients to the gut microbes making it very hard to tell how each individual nutrient is actually affecting each specific bacteria. Here is where **Stance4Health** steps in; we are trying to establish how each nutrient, at least those most consumed (only hundreds of them), can affect each of the bacteria present in the gut.



The first approach will be to make some laboratory simulations on how food is digested to specifically know what reaches the large intestine and what does not. We can do this for each individual food so that we know how much and which components of each food reaches the large intestine.

Secondly, we will feed those components to samples of gut microbiota obtained from different people. Therefore, we will know how those bacteria are affected by specific nutrients. We will be able to analyse which microbes grow which each food and which compounds are produced after microbes are feed with a specific food. Once we have the information on how gut microbes are affected by each food, a computer program will allow us to put it all together and predict how a complete meal will modify bacteria behavior or which compounds they will produce as consequence.

Finally, this will be tested on groups of people who will be recommended specific foods according to their liking or medical needs, if any.

Gut microbiota will be studied to confirm obtained results.

Visit www.stance4health.com for more information about our project.

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